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Discussion Paper 155

Consumption Insurance and Vulnerability to Poverty: A Synthesis of the Evidence from Bangladesh, Ethiopia, Mali, Mexico, and Russia

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In a dynamic environment where adverse economic shocks may be more easily transmitted across geographic borders, a social protection scheme might be able to perform more effectively the task of protecting households from the adverse effects of poverty by adopting an approach that not only identifies the groups of households that are presently poor but also those that are vulnerable to economic shocks and other risks. Whether households can effectively insure their consumption against shocks may be an important element determining their vulnerability to poverty—particularly if shocks have longer-term effects.

This paper brings together some of the empirical work conducted by International Food Policy Research Institute (IFPRI) researchers that investigates linkages among the degree of consumption insurance, household vulnerability to poverty, and household use of formal and informal coping mechanisms, using the same empirical approach in five countries. Building on the recent literature of consumption smoothing and risk sharing, this paper proposes a definition of consumption insurance as the degree to which the growth rate of household consumption covaries with the growth rate of household income.

This definition explicitly acknowledges that households may adopt a variety of risk management strategies and instruments to protect themselves from risk. An implicit assumption in this measure of insurance is that the greater the correlation between the growth rate of household consumption and income, the less effective the risk management strategy adopted by the household.

The Data

After a discussion of the theoretical framework motivating the proposed measure of insurance, and the measure's relation to others that have been empirically implemented in the recent literature, this paper summarizes five studies from geographically diverse areas. The studies—using household panel data from Bangladesh, Ethiopia, Mali, Mexico, and Russia—all examine the extent to which households are able through formal and informal arrangements to insure their consumption from specific economic shocks and fluctuations in their real income. All five studies investigate the extent to which households in their respective sample manage to protect their consumption from specific shocks such as loss of productive time due to illness (Mali, Bangladesh, and Ethiopia), loss of livestock (due to theft or death), and wage and employment shocks (Russia). In addition, all five studies examine how household consumption correlates with income changes.

At the aggregate level, three main questions are addressed. The first asks the extent to which households are able to smooth their food consumption and nonfood consumption across time. The second examines the relationship between consumption insurance and vulnerability to poverty. This analysis is conducted at a more disaggregated level by examining whether specific groups of households defined by observable characteristics of the household or its head are more or less vulnerable to economic shocks. The third relates to the different strategies households adopt to smooth consumption. In particular, it asks whether consumption smoothing is achieved primarily through cross-sectional risk-pooling institutions, credit markets that spread the effects of income shocks through time, or by adjustments in labor supply and occupation.

Social program targeting can be effectively complemented with indicators of the ability of the household to protect its consumption from shocks.

Results

The empirical estimates of one of three studies (Russia) provide some tentative confirmation that consumption variability with respect to income changes is negatively associated with the level of household consumption and positively associated with the incidence of poverty. No significant evidence is found on the role of consumption variability and the proportion of time a household spends in poverty. Estimates from Bangladesh suggest that the household-specific variability of food consumption is negatively associated with the level of household consumption, but neither the variability of food nor total consumption is significantly associated with the probability of being poor or the proportion of time spent in poverty. For Ethiopia, neither measure of consumption variability is correlated with household per capita consumption, but the degree of food consumption variability is positively and significantly associated with the proportion of time spent in poverty as well as the probability of being poor.

Is this measure of consumption variability useful in assessing vulnerability to risk? Among the advantages of the measure is that it offers an opportunity to determine consumption variability arising from idiosyncratic risk and covariate risk, either separately or in combination. Second, it is independent of the poverty status of a household or the level of the poverty line. Finally, the availability of repeated observations per household allows the construction of a household-specific measure of consumption insurance based on total consumption as well as food consumption. This, in turn, provides the opportunity to examine in more detail the partial correlation of household consumption insurance with household characteristics as well as the extent to which consumption variability is correlated with the incidence of poverty.

However, while the consumption insurance measure adequately captures sensitivity to risk and income fluctuations, it falls short of being a measure of *vulnerability* for a number of reasons. First, it does not allow for differences between positive and negative shocks, or distinguish between responses to unanticipated risk and anticipated fluctuations.

From a policy viewpoint, one would be more concerned with the inability to cope with the consequences of a negative shock rather than a positive shock. Second, the consumption variability measure is not related to the size of income risk faced by the household. Using the measure of consumption insurance as a measure of vulnerability to risk is consistent only if income risk is identical across households and only if it is exogenous. The results on risk-coping mechanisms—which show that households diversify income sources to cope with risk—make the assumption of exogenous income risk unwarranted.

Discussion and Recommendations

Most tests of consumption smoothing allude to the role of community-based insurance mechanisms as underlying observed risk-sharing, but are silent on the particular types of mechanisms used. In examining the various risk-coping strategies used by households, these five case studies show that households use a portfolio of strategies, but that different types of households may have differential ability to use these strategies. In particular, poorer households may be less able to use mechanisms that rely on initial wealth as collateral. In this regard, public transfer programs may have a more redistributive effect. Further research could quantitatively establish the importance of each consumption-smoothing strategy in the household's risk-coping portfolio.

The results of this study provide empirical confirmation of the potential benefits associated with a more effective social protection strategy. Given that households differ in their ability to protect themselves from shocks, it appears that there are significant gains associated with the adoption of a social protection system that not only provides support for the critically poor but also assists households and communities to better manage risk. As this study suggests, the targeting of social safety net programs, for example, need not be based solely on the current poverty status of the household or whether a shock affected a household.

Social program targeting can be effectively complemented with indicators of the ability of the household to protect its consumption from such shocks. Taking into consideration these factors and devoting efforts to identify households that are less able to insure their total or food consumption, in particular, may be an important consideration to be introduced in the targeting of the social safety net systems of developing countries.

Keywords: Bangladesh, consumption, Ethiopia, income, Mali, Mexico, poverty, risk-sharing, Russia, vulnerability

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